IN THE CLAIMS

Amend the claims as indicated below.

Claims 1-10 (canceled).

11. (currently amended) A computer-implemented method of building rules and constraints for a resource scheduling system, comprising:

displaying to a user a current rule fragment, such rule fragment comprising a blank space;

filling said blank space with a value selected by said user, so as to create ~~thereby creating~~ a completed rule, wherein the selected value comprises a value selected from a displayed list and a value that is entered directly; ~~and~~

allowing a user to impose at least one self-referential constraint on the completed rule, wherein the at least one self-referential constraint is assignable to an individual to be scheduled; and

allowing a user to impose at least one self-referential tolerance on the completed rule.

Claims 12-17 (canceled).

18. (currently amended) The method of claim 11 ~~claim 17~~, wherein said completed ~~self-referential~~ rule refers to a goal that is unspecified in an absolute sense.

19. (currently amended) The method of claim 11 ~~claim 18~~, wherein said completed ~~self-referential~~ rule refers to a schedule that does not yet exist.

20. (currently amended) The method of claim 11, further comprising applying branching rules to previous selections of a user for filling said blank space, so as to ~~thereby~~ interactively and dynamically create ~~creating~~ future blank spaces and future lists of potential selections.

21. (currently amended) The method of claim 20, further comprising accessing a dynamic database, so as to populate ~~thereby populating~~ said lists of potential selections in accordance with the current value in real time of said dynamic database.

Claims 22-30 (canceled).

31. (new) A method of optimizing a schedule for scheduling a plurality of agents, the method comprising:

generating an initial schedule according to at least one rule, comprising,

displaying a current rule fragment;

accepting user input to create a completed rule from the rule fragment, including, wherein user input includes a selection from a displayed list, and a value directly entered by the user;

accepting a tolerance input by the user;

applying branching rules to previous user selections, such that future selection lists may be generated base on the previous user selections; and

converting the completed rule into an internal representation suitable for input into a resource scheduling system for generating the initial schedule;

removing a shift from the initial schedule, thereby creating a shift-reduced schedule, wherein the shift comprises at least one agent, at least one time slot, and at least one break offset value, wherein the schedule comprises a plurality of shifts assigning the agents to time slots and to break offset values;

creating a plurality of possible schedules, including adding an array of different possible shifts individually to the shift-reduced schedule, wherein the possible shifts are break-unspecified shifts and have indeterminate break times;

evaluating a score function for each of the plurality of possible schedules, wherein the possible schedules have different possible shifts added, wherein the different possible shifts comprise all time slots in the schedule for which the agent can work;

selecting an improved schedule from among the plurality of possible schedules, wherein the improved schedule is characterized by an improved value of the score function; and

scheduling the agents in accordance with the improved schedule.

32. (new) The method of claim 31, wherein generating an initial schedule according to at least one rule further comprises accessing a dynamic database to populate the displayed lists depending on current values in the dynamic database.

33. (new) The method of claim 31, wherein generating an initial schedule according to at least one rule further comprises assigning the completed rule to at least one agent of the plurality of agents.

34. (new) The method of claim 31 further comprising repeatedly removing, adding, evaluating, and selecting until a locally optimal schedule is obtained.

35. (new) The method of claim 31 further comprising:

generating at least one break-unspecified shift, including unscheduling at least one break to make the breaks indeterminate;

creating a plurality of possible break times for each break-unspecified shift, including adding an array of different possible break offset values

for each break-unspecified shift, evaluating a score function for each of the plurality of possible break times; and

selecting a schedule having improved break times from the possible schedules having possible break times, wherein the improved break times are characterized by improved scores.

36. (new) The method of claim 31, wherein the evaluation of the score function for a possible schedule includes the calculation of a stochastic factor.

37. (new) The method of claim 31, wherein the evaluation of the score function for a possible schedule includes selecting one of a plurality of predetermined values corresponding to distinct staffing levels for an interval in the possible schedule.

38. (new) The method of claim 35, wherein the plurality of predetermined values comprises four values corresponding to whether the interval in the possible schedule is very understaffed, slightly understaffed, slightly overstaffed, or very overstaffed.

39. (new) The method of claim 31, wherein the different possible shifts further comprise a subset of the at least one agent and all time slots in the schedule for which the subset of agents can work.

40. (new) A method of optimizing a schedule for scheduling a set of agents, the method comprising:

generating a preliminary schedule from an agent list, agent staffing requirements, and at least one rule specified by a user, including,

displaying a current rule fragment;

accepting user input to create a completed rule from the rule fragment, including, wherein user input includes a selection from a displayed list, and a value directly entered by the user;

accepting a tolerance input by the user;

applying branching rules to previous user selections, such that future selection lists may be generated base on the previous user selections; and

converting the completed rule into an internal representation suitable for input into a resource scheduling system for generating the initial schedule, wherein the preliminary schedule comprises a plurality of shifts assigning the agents to slots and to break offset values;

removing from the preliminary schedule a first shift comprising a first agent;

generating a plurality of possible schedules having zero or more different possible shifts added, wherein the different possible shifts comprise the first agent and all time slots in the schedule for which the first agent can work, and wherein the different possible shifts are break-unspecified shifts and have indeterminate break times;

evaluating a score function for each of the possible schedules based on the indeterminate break times;

selecting an improved schedule from among the plurality of possible schedules, wherein the improved schedule is characterized by an improved value of the score function; and

scheduling the set of agents in accordance with the improved schedule.

41. (new) The method of claim 40, wherein generating an initial schedule according to at least one rule further comprises accessing a dynamic database to populate the displayed lists depending on current values in the dynamic database.

42. (new) The method of claim 40, wherein generating an initial schedule according to at least one rule further comprises assigning the completed rule to at least one agent of the plurality of agents.

43. (new) The method of claim 40 further comprising removing from the preliminary schedule a second shift comprising a second agent, wherein the different possible shifts comprise the second agent and all time slots in the schedule for which the second agent can work, and scheduling the second agent.

44. (new) A system for generating a schedule for a plurality of agents, comprising:

an interface system configured to generate at least one rule, the interface system comprising,

at least one display device configured to display a current rule fragment;

at least one input device configured to receive user input to create a completed rule from the rule fragment, including, wherein user input includes a selection from a displayed list, and a value directly entered by the user;

a processor configured to apply branching rules to previous user selections, such that future selection lists may be generated base on the previous user selections; and

a conversion processing element configured to convert the completed rule into an internal representation suitable for input into a resource scheduling system for generating an initial schedule; and

a resource scheduling system configured to generate an optimized schedule from the initial schedule, including,

removing a shift from the initial schedule, thereby creating a shift-reduced schedule, wherein the shift comprises at least one agent, at least one time slot, and at least one break offset value, wherein the schedule comprises a plurality of shifts assigning the agents to time slots and to break offset values;

creating a plurality of possible schedules, including adding an array of different possible shifts individually to the shift-reduced schedule, wherein the possible shifts are break-unspecified shifts and have indeterminate break times;

evaluating a score function for each of the plurality of possible schedules, wherein the possible schedules have different possible shifts added, wherein the different possible shifts comprise all time slots in the schedule for which the agent can work;

selecting an improved schedule from among the plurality of possible schedules, wherein the improved schedule is characterized by an improved value of the score function; and

scheduling the agents in accordance with the optimized schedule.

45. (new) The system of claim 44, wherein interface system further comprises a dynamic database, wherein generating at least one rule further comprises accessing the dynamic database to populate the displayed lists depending on current values in the dynamic database.

46. (new) The system of claim 44, wherein the at least one input device is further configured accept a tolerance input by the user.

47. (new) A computer-readable medium, having instructions stored thereon, which when executed, cause at least processor to:

generate an initial schedule according to at least one rule, comprising,

displaying a current rule fragment;

accepting user input to create a completed rule from the rule fragment, including, wherein user input includes a selection from a displayed list, and a value directly entered by the user;

accepting a tolerance input by the user;

applying branching rules to previous user selections, such that future selection lists may be generated base on the previous user selections; and

converting the completed rule into an internal representation suitable for input into a resource scheduling system for generating the initial schedule;

remove a shift from the initial schedule, thereby creating a shift-reduced schedule, wherein the shift comprises at least one agent, at least one time slot, and at least one break offset value, wherein the schedule comprises a plurality of shifts assigning the agents to time slots and to break offset values;

create a plurality of possible schedules, including adding an array of different possible shifts individually to the shift-reduced schedule, wherein the possible shifts are break-unspecified shifts and have indeterminate break times;

evaluate a score function for each of the plurality of possible schedules, wherein the possible schedules have different possible shifts added, wherein the different possible shifts comprise all time slots in the schedule for which the agent can work;

select an improved schedule from among the plurality of possible schedules, wherein the improved schedule is characterized by an improved value of the score function; and

schedule the agents in accordance with the improved schedule.

48. (new) The computer-readable medium of claim 47, wherein generating an initial schedule according to at least one rule further comprises accessing a dynamic database to populate the displayed lists depending on current values in the dynamic database.

49. (new) The computer-readable medium of claim 47, wherein generating an initial schedule according to at least one rule further comprises assigning the completed rule to at least one agent of the plurality of agents.

50. (new) The computer-readable medium of claim 47, further comprising repeatedly removing, adding, evaluating, and selecting until a locally optimal schedule is obtained.

51. (new) The computer-readable medium of claim 47, wherein the instruction, when executed, further cause the at least one processor to:

generate at least one break-unspecified shift, including unscheduling at least one break to make the breaks indeterminate;

create a plurality of possible break times for each break-unspecified shift, including adding an array of different possible break offset values

for each break-unspecified shift, evaluate a score function for each of the plurality of possible break times; and

select a schedule having improved break times from the possible schedules having possible break times, wherein the improved break times are characterized by improved scores.

52. (new) The computer-readable medium of claim 47, wherein the evaluation of the score function for a possible schedule includes the calculation of a stochastic factor.

53. (new) The computer-readable medium of claim 47, wherein the evaluation of the score function for a possible schedule includes selecting one of a plurality of predetermined values corresponding to distinct staffing levels for an interval in the possible schedule.

54. (new) The computer-readable medium of claim 51 wherein the plurality of predetermined values comprises four values corresponding to whether the interval in

the possible schedule is very understaffed, slightly understaffed, slightly overstaffed, or very overstaffed.

55. (new) The computer-readable medium of claim 47, wherein the different possible shifts further comprise a subset of the at least one agent and all time slots in the schedule for which the subset of agents can work.